

Work Order ID 136979

Wednesday, September 23, 2015 9:03:19 AM

136979**PRELIMINARY ISSUE**

Page 1

Item ID: D5271-4 Accept *N900040100* Setup Start *NS1*
Revision ID: PRELIM Stop *NS2*
Item Name: RH Aft Fitting
Start Date: 9/23/2015 Start Qty: 1.00 *1* Cust Item ID:
Required Date: 9/23/2015 Req'd Qty: 1.00 *1* Customer:
Reference:

Approvals: Process Plan: MLS Date: SEP 23 2015 Tooling: Date: Run Start *NR1*
QC: Date: SPC (Y/N): Date: Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr								
D5271	A								

100		0.00							
100	BAND SAW								
Bandsaw	Memo	0.00							
Jeaspa Bandsaw	Cut Blank at 8.00"								

110		0.00							
110	HAAS CNC VERTICAL MACHINING #1								
HAAS 5AXIS	Memo	0.01							
HAAS CNC vertical machine #5	1-Machine per folio FB416 DWG REV: <u>A</u> FOLIO REV: <u>AA</u>								
	2- deburr and break all sharp edges								

rework (to new drawing) L.A. 16/03/10

DAS
08
9-85

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

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PRELIMINARY ISSUE

Page 2

Accept

N900040100

Setup Start *NS1*

Stop *NS2*

Item Name: RH Aft Fitting

Start Date: 9/23/2015 **Start Qty:** 1.00 ***1***

Cust Item ID:

Required Date: 9/23/2015 **Req'd Qty:** 1.00 ***1***

Customer:

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

**Insp.
Stamp**

0.00

120

0.00

0.00
0.00
(rework) G.A 15/10/06
G.A 16/03/10

DAS
08

QC

Memo

Quality Control

DASB9
08
9-89

0.00

130

0.00

OC

Memo

Quality Control

DAS
38
9-89

OCT 08 2015

0.00

140

1.20

Outsource4

Memo

Outsource process - Anodize

Issue P/O: 31695
Black Anodize as per Dwg D5271

DAS
13
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐									
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Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐				Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐		Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	
OTHER : _____											

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Page 3

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	Receive & Inspect for Damage & Mat'l Certs	0.00							
150									
Packaging	Memo	0.00							
Packaging									
155	QC5- Inspect part completeness to step on W/O	0.00							
155									
QC	Memo	0.00							
Quality Control									
180	Identify as per dwg & Stock Location.	0.00							
180									
Packaging	Memo	0.00							
Packaging									

1x SP16-03-23

1
DAS 38 9-89
MAR 24 2016

1
OCT 24 2016
DAS 6 9-89
MAR 24 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐				
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Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	OTHER : _____

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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190	QC21- Final Inspection - Work Order Release	0.00							
190									
QC	Memo	0.00							
Quality Control									

DAS
21
9-29

OCT 25 2016

MLJ

MAY 13 2016

POSITIVE RECALL

EFFECTIVE SEP 23 2015 AUTH MLJ

RELEASED 9-29-15 DATE 10-10-21

RD 1013-01 et rev A

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td style="border: none;"></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																	
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Picklist Print

Wednesday, September 23, 2015 9:03:22 AM

Page 1

Work Order ID: 136979

136979

Parent Item: D5271-4

D5271-4

Parent Item Name: RH Aft Fitting

Start Date: 9/23/2015

Required Date: 9/23/2015

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev: A RQ 15.09.23. Verified by: DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M6061T6B3.500X03.50 0		Purchased	No				f	12.0000		0.701053			

M6061T6B3 500X03 500

6061-T6 Bar 3.5" x 3.5"

**

B.c 15/10/06

Location

Loc Qty

Loc Code

MAT

12

→ m133121

12

0.6708 ft

DQA: _____ Date: _____

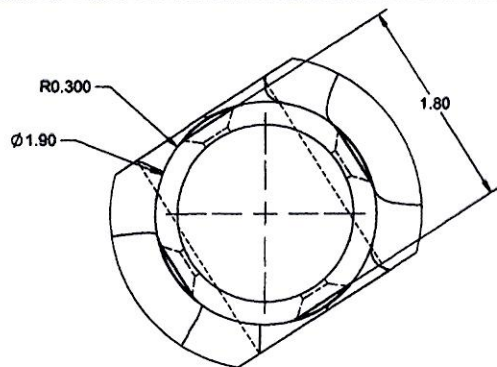


WORK ORDER NON-CONFORMANCE / UPDATE

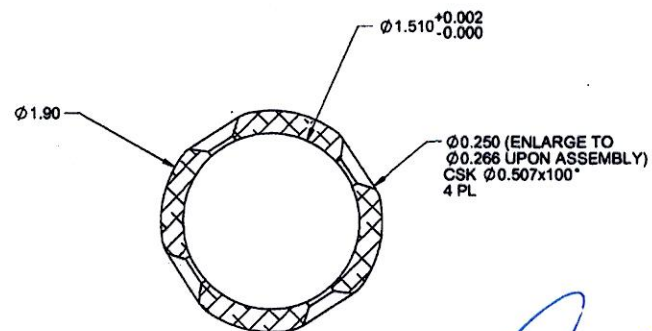
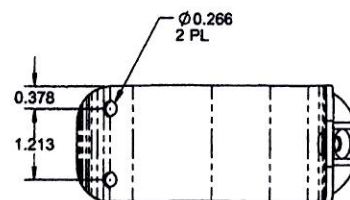
QA Closed: _____ Date: _____

Work Order update only ☐

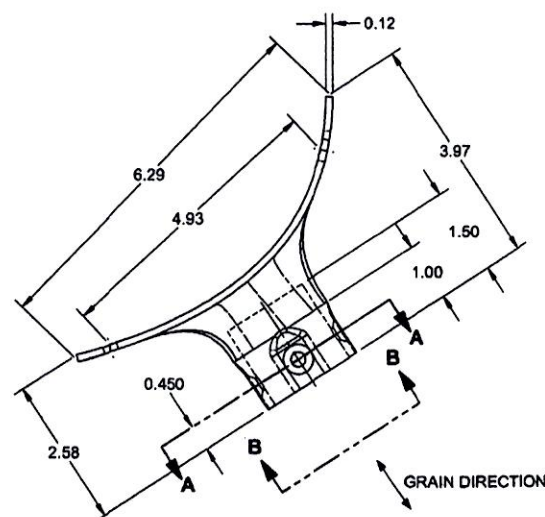
Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	
OTHER : _____					



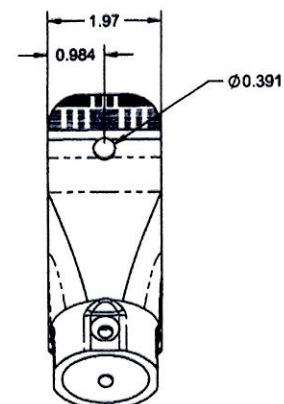
VIEW B-B



SECTION A-A



D5271-1 FORWARD FITTING



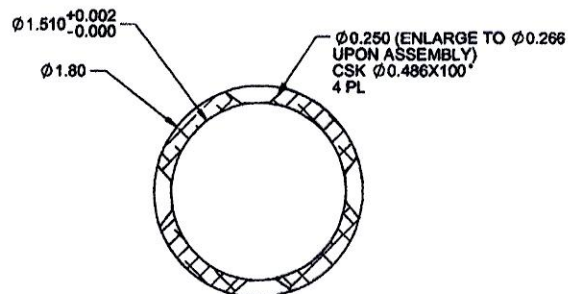
NOTES:

- 1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINIUM BAR
PER QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)
OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS4160)
OR ASTM B211 OR ASTM B221
REF DART SPEC M6061T6B
- 2) FINISH: ANODIZE BLACK PER MIL-A-8625F TYPE I OR IB OR IC OR II OR IIB CLASS 2 AFTER MACHINING
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D5271-1" PER DART QSI 044 SECTION 6.1
- 7) WEIGHT: 0.50 lbs
- 8) ALL NON-DIMENSIONED FEATURES DEFINED PER DRAWING FILE "D5271-1REV. A.SLDPRT"

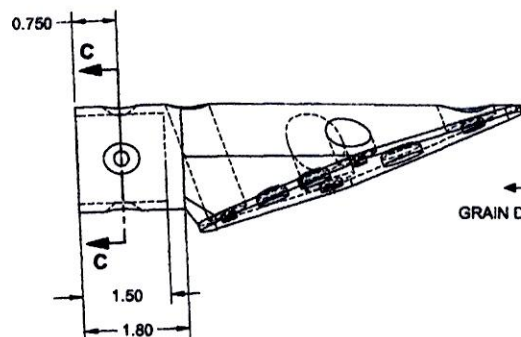
RELEASED
2015-12-07
EEN 15-649

APPROVED

A	ISSUE	DESCRIPTION	CC	15.06.15
REV.			BY	DATE
DESIGN	CC	DART AEROSPACE USA, INC EUGENE, OREGON, USA		
DRAWN	CC			
CHECKED	VS	DRAWING NO.	REV. A	
MFG. APPR.	JLM	D5271	SHEET 1 OF 3	
APPROVED	HS	TITLE	SCALE	
DE APPR.	DS	AIRCRAFT FITTINGS	NTS	
DATE	15.06.15	COPYRIGHT © 2015 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.		



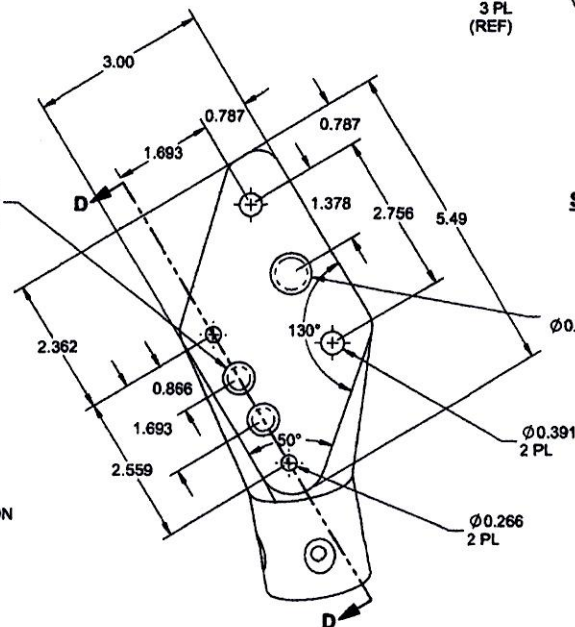
SECTION C-C



SECTION D-D

C'BORE
Ø 0.551 X 0.20 DEEP
2 PL

GRAIN DIRECTION



SECTION D-D

C'BORE
Ø 0.709 X 0.20 DEEP

Ø 0.70
2 PL

Ø 0.391
2 PL

Ø 0.266
2 PL

Ø 0.90
2 PL

D5271-3 LH AFT FITTING

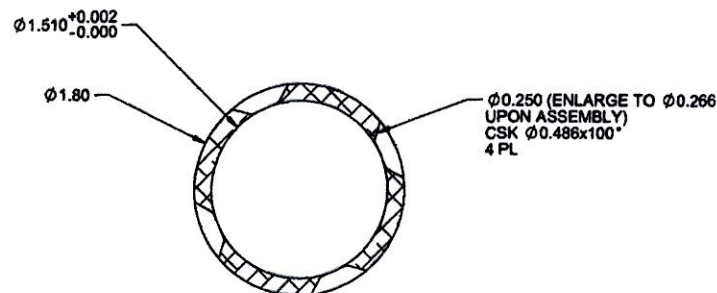
NOTES:

- 1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINIUM BAR
PER QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)
OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS4160)
OR ASTM B211 OR ASTM B221
REF DART SPEC M6061T6B
- 2) FINISH: ANODIZE BLACK PER MIL-A-8625F TYPE I OR IB OR IC OR II OR IIB CLASS 2 AFTER MACHINING
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D5271-3" PER DART QSI 044 SECTION 6.1
- 7) WEIGHT: 1.19 lbs
- 8) ALL NON-DIMENSIONED FEATURES DEFINED PER DRAWING FILE "D5271-3REV. A.SLDPRT"

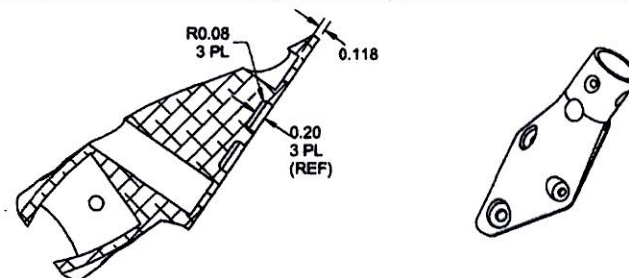
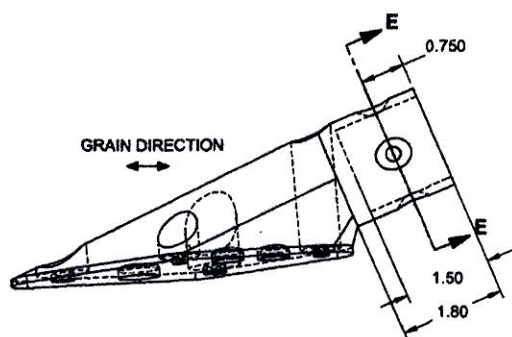
RELEASED
2015-12-07

APPROVED

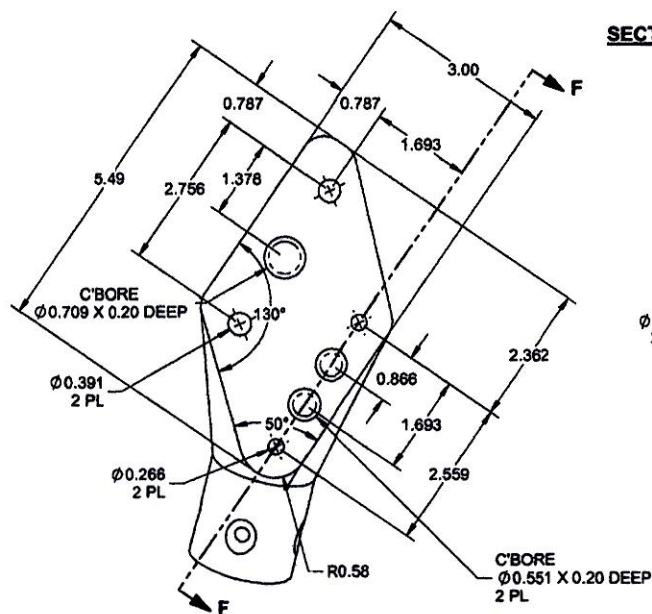
DESIGN	CC	DART AEROSPACE USA, INC EUGENE, OREGON, USA	
DRAWN	CC		
CHECKED	VS	DRAWING NO.	REV. A
MFG. APPR.	JLM	D5271	SHEET 2 OF 3
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	AIRCRAFT FITTINGS	NTS
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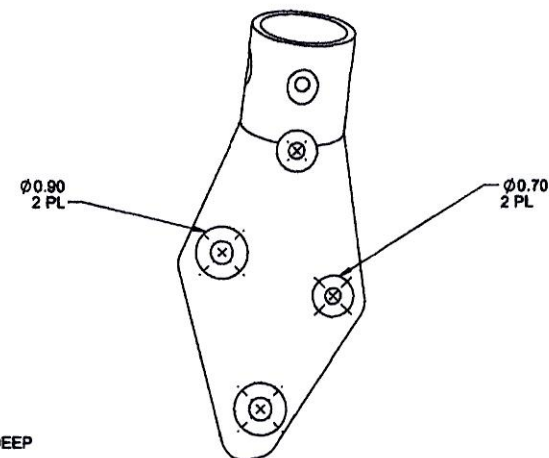
SECTION E-E



SECTION F-F



D5271-4 RH AFT FITTING



NOTES:

- 1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINIUM BAR
PER QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)
OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS4160)
OR ASTM B211 OR ASTM B221
REF DART SPEC M6061T6B
- 2) FINISH: ANODIZE BLACK PER MIL-A-8625F TYPE I OR IB OR IC OR II OR IIB CLASS 2 AFTER MACHINING
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D5271-4" PER DART QSI 044 SECTION 6.1
- 7) WEIGHT: 1.19 lbs
- 8) ALL NON-DIMENSIONED FEATURES DEFINED PER DRAWING FILE "D5271-4REV. A.SLDPRT"

RELEASED
2015-12-07

DESIGN	CC	DART AEROSPACE USA, INC	
DRAWN	CC	EUGENE, OREGON, USA	
CHECKED	VS	DRAWING NO.	REV. A
MFG. APPR.	JLM	D5271	SHEET 3 OF 3
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	AIRCRAFT FITTINGS	NTS
DATE	15.06.15	COPYRIGHT © 2015 BY DART AEROSPACE USA, INC THIS DOCUMENT IS UNCLASSIFIED AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC	

DART AEROSPACE LTD		Work Order:	136979
Description: RH AFT FITTING		Part Number:	D5271-4
Inspection Dwg: D5271 Rev: A		Page 1 of 1	

INSPECTION SHEET

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
φ 0.250	+0.005/-0.001	φ 0.251	✓		Vern	GA-13
φ 0.486 x 100°	+/-0.010 / +/- 1/2°	φ 0.489 x 100°	✓		Vern / Angle M	GA-13 / CNC-17
φ 1.510	+0.002 / -0.000	φ 1.5101	✓		Mic / T-6	GA-02 / ref.
φ 1.80	+/-0.030	φ 1.800	✓		Mic	GA-02
φ 0.551 x .20	+/-0.010 / +/-0.030	φ 0.551 x .201	✓		Vern	GA-13
0.118	+/-0.010	0.119	✓		Mic	GA-03
1.80	+/-0.030	1.807	✓		Vern	GA-13
1.50	+/-0.030	1.500	✓		"	"
0.750	+/-0.010	0.750	✓		"	"
φ 0.709 x .20	+/-0.010 / +/-0.030	φ 0.708 x .201	✓		"	"
φ 0.256	+0.006 / -0.001	φ 0.256	✓		"	"
50°	+/- 1/2°	50°	✓		Angle M.	CNC-17
130°	+/- 1/2°	130°	✓		"	"
φ 0.391 0.391	+0.006 / -0.001	φ 0.391	✓		Vern	GA-13
5.49	+/-0.030	5.487	✓		H-6	31006
2.756	+/-0.005	2.756	✓		Vern	GA-13
0.787	+/-0.010	0.788	✓		H-6	31006
0.787	+/-0.010	0.788	✓		"	"
2.480	+/-0.010	2.483	✓		"	"
3.00	+/-0.030	3.001	✓		"	"
2.362	+/-0.010	2.363	✓		"	"
2.559	+/-0.005	2.559	✓		Vern	GA-13
R0.58	+/-0.030	R0.578	✓		R-6	ref.
1.693	+/-0.005	1.693	✓		Vern	GA-13
φ 0.90	+/-0.030	φ 0.898	✓		Vern	GA-13
φ 0.70	+/-0.030	φ 0.698	✓		"	"
R0.08	+/-0.030	R0.063	✓		R-6	ref.
0.118	+/-0.010	0.121	✓		H-6	31006
0.866	+/-0.010	0.863	✓		Vern	GA-13
1.378	+/-0.010	1.379	✓		"	"

Measured by: J.A. DAS 08 9-89	Checked by: 38 14 9-89 9-39	QC Inspector:
Date: 15/10/06 9-89	Date: OCT 08 2015 16/03/11	Date:

Engineering Approval: (If necessary)	Date:
---	--------------

Rev	Date	Change	Revised by	Approved
B	14.07.31	New Issue	KJ	



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO31695**

Purchase Order Date 3/14/2016

PO Print Date 3/16/2016

Page Number 5 of 6

Order From :

VC-ATG001

Ship To : DART AEROSPACE LTD

A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE ROAD
ROCKLAND, ON K4K 1T2
CANADA

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone

613-446-4544

Ship To Contact

Ship To Phone

Ship Via:

VENDOR'S TRUCK

Ship Acct:

Buyer

Customer POID

Customer Tax #

Terms

Currency

FOB

Chantal Lavoie

10127-2607

Net 30

CAD

FCA - (Free Carrier)

Line Total: \$80.50

12	140940	D5271-4 RH AFT FITTING REV. A	3/28/2016	3.00	\$5.75	\$17.25
----	--------	----------------------------------	-----------	------	--------	---------

Yes

3/28/2016

BLACK ANODIZE AS PER MIL-A-8625F TYPE I OR IB/IC/II/IIB CLASS 2

Line Total: \$17.25

13	136979	D5271-4 RH AFT FITTING REV. A	3/28/2016	1.00	\$5.75	\$5.75
----	--------	----------------------------------	-----------	------	--------	--------

Yes

3/28/2016

BLACK ANODIZE AS PER MIL-A-8625F TYPE I OR IB/IC/II/IIB CLASS 2

Line Total: \$5.75

15	142330	646.3010 LH HALF REV. N/C	3/28/2016	10.00	\$10.25	\$102.50
----	--------	------------------------------	-----------	-------	---------	----------

Yes

3/28/2016

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-P-23377J TYPE I CLASS N

Note:

3/16/2016



A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE STREET
ROCKLAND, ON K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 911439

Date: 23-Mar-16

To

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ship To

CHANTAL LAVOIE
DART AEROSPACE LTD
1270 ABERDEEN STREET
HAWKESBURY, ON K6A 1K7
Canada

Ph: 613 632-9577

Fax: 613 632-1053

Terms		Ship Via	
Quantity		Description	
PLEASE REFERENCE THE PACK LIST NUMBER ON ALL CORRESPONDENCE TO THIS SHIPMENT. IF YOU HAVE ANY QUESTIONS, PLEASE CALL AT (613) 446-4544.			
22 ea	Part: D5271-1 FORWARD FITTING Job: 19315	PO: PO31695	Rev: A Line: 10
14 ea	Part: D5271-3 LH AFT FITTING Job: 19316	PO: PO31695	Rev: A Line: 11
3 ea	Part: D5271-4 RH AFT FITTING Job: 19317	PO: PO31695	Rev: A Line: 12
1 ea	Part: D5271-4 RH AFT FITTING Job: 19318	PO: PO31695	Rev: A Line: 13
24 ea	Part: D5273-043 END CUTTING Job: 19313	PO: PO31695	Rev: B Line: 8
16 ea	Part: D5273-041 END FITTING Job: 19314	PO: PO31695	Rev: B Line: 9
DATE: <u>23/3/16</u> CERTIFIED SIGNATURE: <u>[Signature]</u> RECEIVER SIGNATURE: _____			
Note: This Packing Slip may contain parts that have been PLATED. Items that are plated may be subject to natural tarnishing and it is suggested that they be inspected within 24 hours of receipt.			

SP16-03-23



A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE STREET
ROCKLAND, ON K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 911439

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HAWKESBURY, ON K6A 1K7
Canada

Ph: 613 632-9577

Fax: 613 632-1053

Terms

Ship Via

Quantity

Description

CERTIFICATE OF CONFORMANCE

A.T.G. INDUSTRIES INC. CERTIFIES THAT ALL ITEMS IN THIS SHIPMENT CONFORM TO
REQUIREMENTS.

MADE IN CANADA.

SP 16-03-23

Purchase Order Receipt Listing

Wednesday, September 09, 2015 10:36:29 AM

Page 1 of 2

All amounts are calculated in domestic currency.

All Vendors PO ID PO29668 All Receipt Dates All Line Item Types
All Item ID/GL/WOs All Rec. Employees All Currencies
Grouped by Vendor ID

Purchase Order ID/ Curr Type	Line Nbr/ Insp Req	Project ID	Reference/ Description/ Cert Std	PO U/M/ Stock U/M	Required Date Required Qty	Recv Date/ Recv Emp	Recv Qty (PO U/M)	Cost Per Unit/ Recv Value	Inspected Qty/ Rejected Qty (PO U/M)	MRB Qty/ MRB Reject Qty	Book Amt
Vendor ID: Vendor Name VC-COP001 Thyssenkrupp Materials CA Ltd											
PO29668	2		M304B0.250x0.500 f		9/16/2015	9/9/2015	120.0000	\$0.92	0.0000	0	\$110.79
CAD	No		304 BAR .250 x .500 f		120.0000	DCUSER		\$110.79	0.0000	0	
			m133121								
	4		M5052H32S.080 sf		9/16/2015	9/9/2015	32.0000	\$2.59	0.0000	0	\$83.00
	No		5052-H32.080 Sheet sf		32.0000	DCUSER		\$83.00	0.0000	0	
			m133121								
	5		M6061T6B0.375X01 f		9/16/2015	9/9/2015	20.0000	\$1.33	0.0000	0	\$26.60
	No		6061T6 BAR .375 x f		20.0000	DCUSER		\$26.60	0.0000	0	
			1.00								
			m133121								
	6		M6061T6B0.750X01 f		9/16/2015	9/9/2015	12.0000	\$2.53	0.0000	0	\$30.40
	No		6061-T6 Bar .750 X f		12.0000	DCUSER		\$30.40	0.0000	0	
			1.50								
			m133121								
	7		M304B0.250X4.000 f		9/16/2015	9/9/2015	12.0000	\$6.10	0.0000	0	\$73.24
	No		304 BAR .250 x 4.00 f		12.0000	DCUSER		\$73.24	0.0000	0	
			m133121								
	8		M6061T6B3.500X03 f		9/16/2015	9/9/2015	12.0000	\$27.40	0.0000	0	\$328.82
	No		6061-T6 Bar 3.5" x f		12.0000	DCUSER		\$328.82	0.0000	0	
			3.5"								
			m133121								
	9		71401-45		9/16/2015	9/9/2015	1.0000	\$0.00	0.0000	0	\$0.00
	No		PROCUREMENT		1.0000	DCUSER		\$0.00	0.0000	0	
			QUALITY CLAUSES								
			m133121								

B I L L O F L A D I N G

No: PEC 952917

Ship From:
 THYSSENKRUPP MATERIALS NA
 2821 LANGSTAFF ROAD
 CONCORD, ONTARIO L4K 5C6
 Tel: 905 669 9444 Fax: 905-738-9033

Ship Date 08Sep15 at 14:31 From PFW
 Probill
 Via VIM DELIVERY
 FOB CONCORD
 Frt PREPAID
 Route 0- 0 Manifest
 Vhcle Trailer
 Slp STAN IVERS (905-532-1350)
 Sold To: (20115)
 DART AEROSPACE

Ship To: (1)
 DART AEROSPACE

B I L L O F L A D I N G

6) Our Order PEC-843081- 6 Your PO # 29668

ALUMINUM SQUARE BAR 6061-T6511
 3.50" X 144.0000"

Heat Number
 Z00639016

Tag No
 451426

Quantity
 12 FT

PCS
 1

Wt LBS
 174

TOTAL: Tags 6 PCS 15 LBS 325

Heat Number
 0440115
 1416283
 201423145
 514107074
 Z00256076
 Z00639016

*** Chemical Analysis ***

SP1509-9

MILL TEST REPORTS, PACKING SLIPS ARE TO SENT
 WITH MATERIAL AND FAXED TO THE CUSTOMER PRIOR
 TO SHIPPING.

ATTN: CHANTAL/LINDA

** ALL PACKING SLIPS MUST HAVE THE HEAT NUMBER **
 ** REFERENCED ON IT **

TOTAL 2 BDLS 1 SKID GW 398 LBS

ITEM# 1,4,5,6 - 1 BDL
 ITEM# 2 - 1 SKID
 ITEM# 3 - 1 BDL

*CUSTOMER PICK-UP HRS AT THYSSENKRUPP MATERIALS NA

Page: 2Continued

TOUTES ERREURS ET/OU MARCHANDISES MANQUANTES DOIVENT ÊTRE
 RAPPORTÉES IMMÉDIATEMENT.

ERRORS OR SHORTAGE MUST BE REPORTED IMMEDIATELY

RETOUR DE MARCHANDISES AVEC NOTRE NUMERO D'APPROBATION SEULEMENT
 MERCHANDISE MAY NOT BE RETURNED WITHOUT OUR APPROVAL NUMBER.

THYSSENKRUPP MATERIALS NA

DART AEROSPACE
ALUMINUM SQUARE BAR 6061-T6511
3.50" X 144.0000"
PART NO.

PO/Rpt 29668

We certify that this is a true copy of the report
furnished by the producer of the metal, or data
resulting from tests made in approved labs.

Certificate of Mill Test Results

BL PEC-952917-006

8Sep15

Signed by:

Pg 1/1

KAISER ALUMINUM FABRICATED PRODUCTS

KAISER ALUMINUM
FABRICATED PRODUCTS, LLC
5205 KAISER DRIVE
KALAMAZOO, MI 49048

CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

CUSTOMER PO NUMBER: PEC-268237-8		CUSTOMER PART NUMBER 382/STK		PRODUCT DESCRIPTION: 3 500 SC SQ BAR	
KAISER ORDER NUMBER: 689762	LINE ITEM: 008	SHIP DATE: 07/02/2015	KAISER LOT NUMBER: Z00639016	ALLOY: 6061	TEMPER: T6511
WEIGHT SHIPPED: 1037.000 LB	QUANTITY: 6.000 PCS	B/L NUMBER: 612461	DIAM/DIA THKNS: 3.500	WIDTH: 144.000	LENGTH: 12.000 FT
SHIP TO: THYSSENKRUPP CANADA 2821 LANGSTAFF ROAD CONCORD, ON L4K 5C6 CANADA			SOLD TO: THYSSENKRUPP CANADA 2821 LANGSTAFF ROAD CONCORD, ON L4K 5C6 CANADA		

Actual Physical Properties

REFERENCE	DASH#	SAMPLE#	UTS (KSI)	YTS (KSI)	ELONG%	HARDNESS	CONDUCT.	BEND
Z00639016	0001	1	53.0	49.3	19.7	RE 95	N/A	N/A

Chemical Composition (wt%), Aluminum Remainder

LIMITS	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Bi	Zr	Ea	Tot
Maximum	0.30	0.70	0.40	0.15	1.20	0.35	0.25	0.15	NA	NA	NA	0.05	0.15
Minimum	0.40	0.00	0.10	0.00	0.30	0.04	0.00	0.00	NA	NA	NA	0.00	0.00
105139	.75	.29	.29	.09	.93	.09	.04	.02	.00	.00	.00	.01	.03

Applicable Requirements:

ASTM-B221-14 STENCILED ASME-SB221 1998 SECT II AMS-QQ-A-200/8 97 (REAF 2012) UNS#A96061
(T6511 also conforms to T5-not applicable to other tempers)

Miscellaneous Notes

MANUFACTURED IN USA MELTED IN USA

MERCURY IS NOT A NORMAL BACKGROUND ELEMENT IN ALUMINUM ALLOYS. NEITHER MERCURY NOR ANY OF ITS COMPOUNDS ARE UTILIZED BY KAISER ALUMINUM IN THE MANUFACTURE OF THIS MATERIAL.

CERTIFICATION

Kaiser Aluminum Fabricated Products, LLC hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with applicable specifications forming a part of the description set forth in Kaiser's sales acknowledgement form. Any warranty is limited to that shown on Kaiser's general terms and conditions of sale. Test reports are on file, subject to examination.

Aimee L. Macnowski, Quality & Technology Manager

Aimee L. Macnowski

Plant Serial: 00183379

Kaiser Order Number: 689762

Line Item: 008

Page 1 of 1



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO29668

Purchase Order Date 9/2/2015

PO Print Date 9/3/2015

Page Number 4 of 5

Order From : VC-COP001
THYSSENKRUPP MATERIALS CA LTD
O/A VPK METAL- C/O T27540/PO BOX 4275,POSTAL"A"
TORONTO, ON M5W 5V8
CA

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name		Buyer	Chantal Lavoie
Vendor Phone	905 669 9444	Customer POID	
Ship To Contact		Customer Tax #	10127-2607
Ship To Phone		Terms	Net 30
Ship Via:	VENDOR'S TRUCK	Currency	CAD
Ship Acct:		FOB	FCA - (Free Carrier)

8	M6061T6B3.500X03.500	6061-T6 Bar 3.5" x 3.5"	9/16/2015	FN	12.00	\$36.05	\$432.60
			Yes		f		
			9/16/2015				

MATERIAL:

6061-T6/T6511/T6510/T6511/T62 ALUMINUM BAR
SPECIFICATION: QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)
OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160)
OR ASTM B211 OR ASTM B221

Line Total: \$432.60

9	71401-45	PROCUREMENT QUALITY CLAUSES	9/16/2015	1.00		\$0.00	\$0.00
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Procurement Quality Clauses

A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)
A026 certification of material conformance
A041 quality management system
A042 dart notification by supplier
A043 retention of quality document

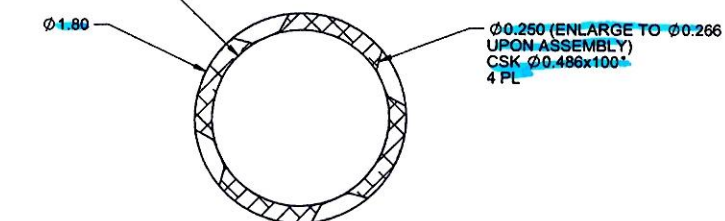
No
9/16/2015

Line Total: \$0.00

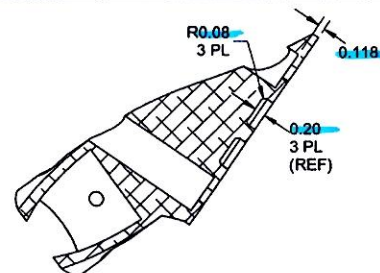
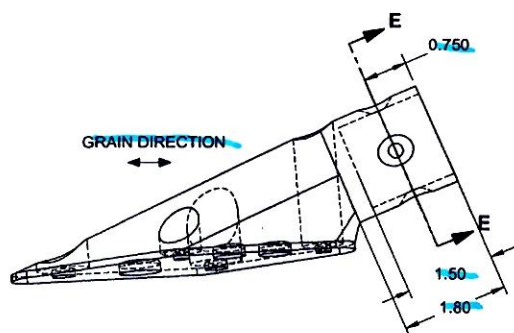
Note:

9/3/2015

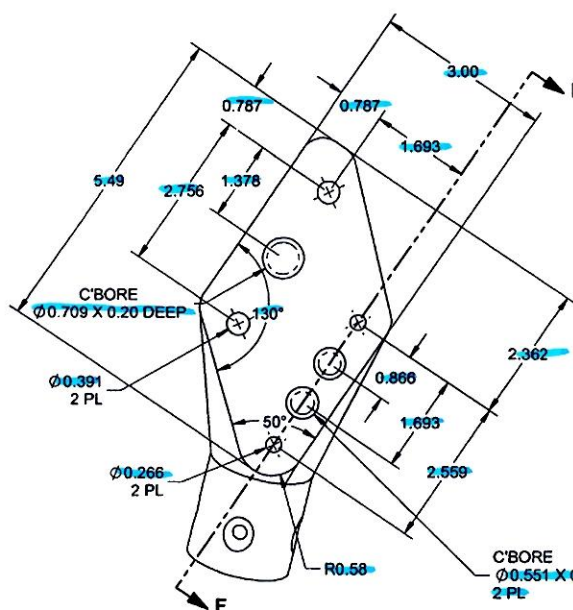
8 7 6 5 4 3 2 1



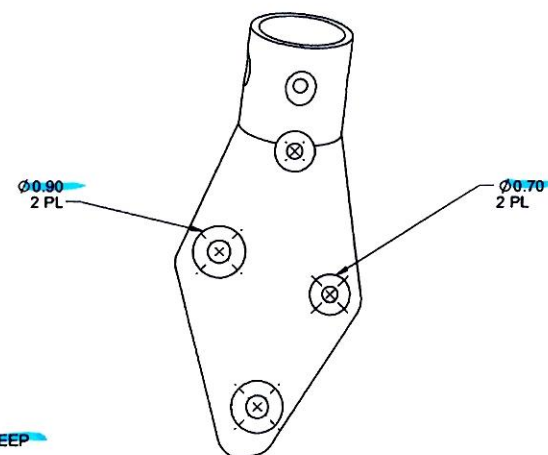
SECTION E-E



SECTION F-F



D5271-4 RH AFT FITTING



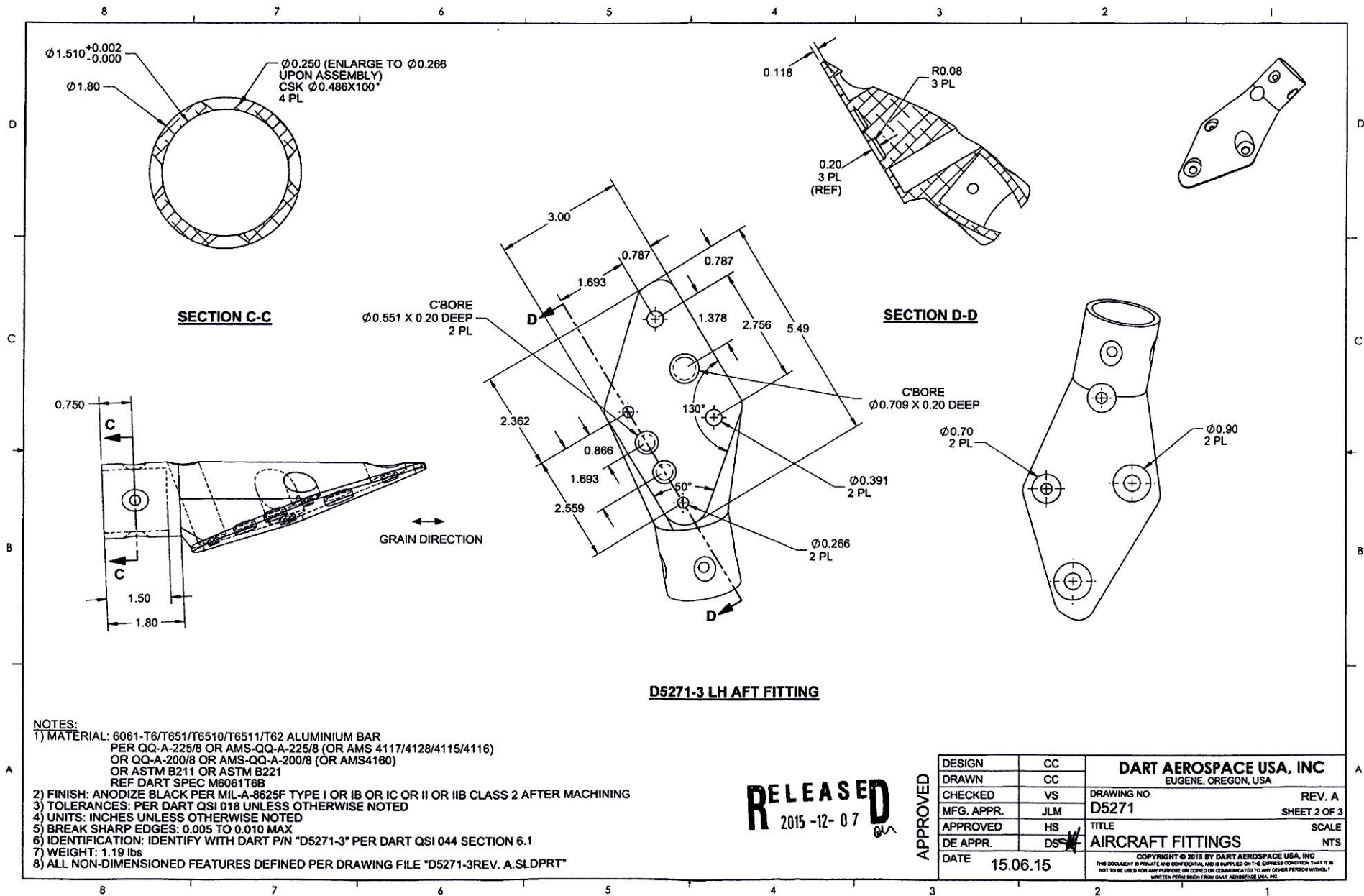
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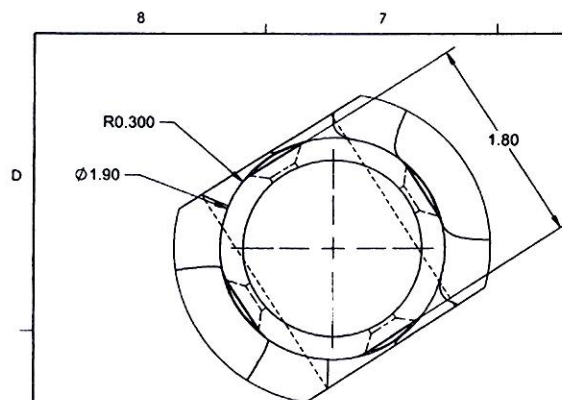
- 1) MATERIAL: 6061-T6/T651/T6511/T62 ALUMINIUM BAR
PER QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)
OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS4160)
OR ASTM B211 OR ASTM B221
REF DART SPEC M6061T6B
- 2) FINISH: ANODIZE BLACK PER MIL-A-8625F TYPE I OR IB OR IC OR II OR IIB CLASS 2 AFTER MACHINING
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D5271-4" PER DART QSI 044 SECTION 6.1
- 7) WEIGHT: 1.19 lbs
- 8) ALL NON-DIMENSIONED FEATURES DEFINED PER DRAWING FILE "D5271-4REV. A.SLDPRT"

RELEASED
2015-12-07

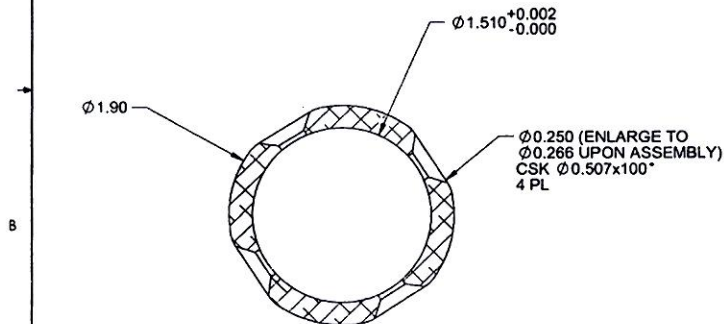
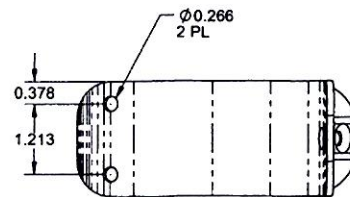
APPROVED

DESIGN	CC	DART AEROSPACE USA, INC EUGENE, OREGON, USA	
DRAWN	CC		
CHECKED	VS	DRAWING NO.	REV. A
MFG. APPR.	JLM	D5271	SHEET 3 OF 3
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	AIRCRAFT FITTINGS NTS	
DATE	15.06.15	COPYRIGHT © 2015 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR TRANSMITTED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

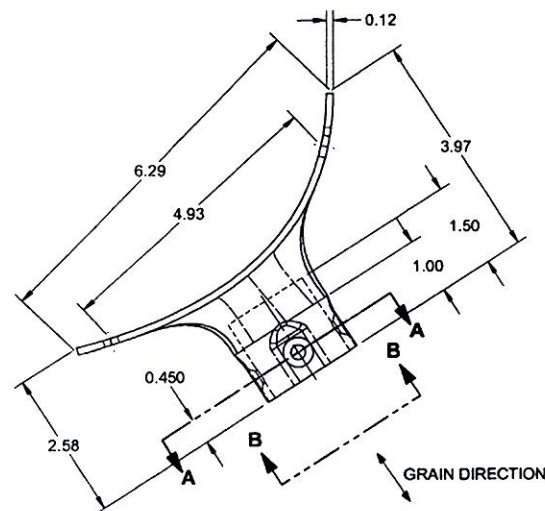




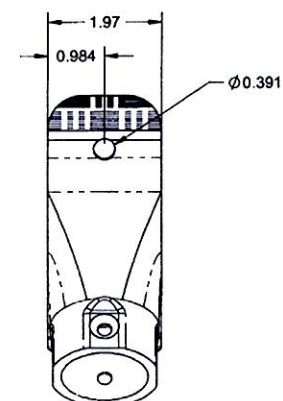
VIEW B-B



SECTION A-A



D5271-1 FORWARD FITTING



NOTES:

- 1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR
PER QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)
OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS4160)
OR ASTM B211 OR ASTM B221
REF DART SPEC M6061T6B
- 2) FINISH: ANODIZE BLACK PER MIL-A-8625F TYPE I OR IB OR IC OR II OR IIB CLASS 2 AFTER MACHINING
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D5271-1" PER DART QSI 044 SECTION 6.1
- 7) WEIGHT: 0.50 lbs
- 8) ALL NON-DIMENSIONED FEATURES DEFINED PER DRAWING FILE "D5271-1REV. A.SLDPRT"

RELEASED
2015-12-07
EUN 15-649

APPROVED

A		ISSUE			CC	15.06.15
REV.		DESCRIPTION			BY	DATE
DESIGN	CC	DART AEROSPACE USA, INC EUGENE, OREGON, USA				
DRAWN	CC					
CHECKED	VS	DRAWING NO. D5271			REV. A	
MFG. APPR.	JLM				SHEET 1 OF 3	
APPROVED	HS	TITLE			SCALE	
DE APPR.	DS	AIRCRAFT FITTINGS			NTS	
DATE	15.06.15					
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